MISR Data Visualization and Analysis Using the hdfscan Tool

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The Multi-angle Imaging SpectroRadiometer (MISR) instrument currently flies aboard NASA's Terra spacecraft. MISR measures upwelling visible radiance from Earth in 4 spectral bands centered at 446, 558, 672, and 866 nm, at each of 9 view angles spread out in the forward and aft directions along the flight path at 70.5, 60.0, 45.6, 26.1 degrees, and nadir. Data products derived from MISR measurements aim at improving our understanding of the Earth's environment and climate.

A new software tool called hdfscan is available to display and analyze MISR data products. The tool accesses data using the HDF-EOS grid and swath interfaces, as well as the native HDF SDS and vdata interfaces. hdfscan is designed for use with several MISR data products, including MISR level 1 radiance imagery, MISR level 2 derived geophysical parameters, and MISR ancillary data products.

The hdfscan tool can display MISR data in both image and textual form. hdfscan also includes a data editing capability. In addition, the tool contains unique features to aid in the interpretation of MISR data. These include the ability to unscale and unpack MISR data fields; the ability to display MISR data flag values according to their interpreted values as well as their raw values; knowledge of special MISR fill values; and the ability to compute and display simple statistics for each data field, such as the average and standard deviation.

The hdfscan tool runs in one of two modes, as selected by the user: command-line mode, or via a graphical user interface (GUI). This provides a user with flexibility in using the tool for either batch mode processing or interactive analysis.

This presentation will describe features and functionalities of the hdfscan tool. The user interface will be shown. Menu options will be explained. Information on how to obtain the tool will be provided.